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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,147

04/07/2006

You Moon Jeon

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7284

23413 7590 05/14/2009  
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20 Church Street  
22nd Floor  
Hartford, CT 06103

EXAMINER

KOSACK, JOSEPH R

ART UNIT

PAPER NUMBER

1626

NOTIFICATION DATE

DELIVERY MODE

05/14/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,147	<b>Applicant(s)</b> JEON ET AL.	
	<b>Examiner</b> Joseph R. Kosack	<b>Art Unit</b> 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1-7 and 9-13 are pending in the instant application.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 12, 2009 has been entered.

#### ***Previous Claim Rejections - 35 USC § 103***

Claims 1-7, 9, and 10 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over van der Slot et al. (*Organometallics*, 2002, 3873-3883) in view of Billig et al. (*Kirk-Othmer Encyclopedia of Chemical Technology*, 1996, "Oxo Process" Pages 1-17).

The Applicant has traversed the rejection on the grounds that the Examiner has provided the motivation to combine the references from the instant specification, that van der Slot et al. did not use monodentate and bidentate ligands in combination, and that the combination yields superior or unexpected results, for which data is provided in the arguments.

The Examiner respectfully disagrees. Firstly, van der Slot et al. essentially teach using a monodentate ligand with a bidentate ligand in Scheme 2 on page 3876. van der Slot et al. go on to teach that compound 11, which has two bidentate ligands

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coordinated to the rhodium atom, is totally absent in hydroformylation conditions.

Therefore, van der Slot et al. strongly suggest that a bidentate ligand in conjunction with a monodentate ligand can be used with the rhodium catalyst in order to perform the reaction. Billig et al. supplements van der Slot et al. by teaching that TPP with a rhodium catalyst is the industry standard for hydrofomylation of ethylene and propylene. If someone of ordinary skill in the art was going to use a monodentate ligand with a monodentate ligand as suggested by the teachings of van der Slot et al., they would turn to the monodentate ligand which is the industry standard.

As to the data presented in the arguments, it cannot be determined if the data presented was generated by the same methods of the instant specification as the data is not presented in declaration form. However, even if the data provided was in a declaration, the data presented only shows a snapshot of one ligand system, and is not commensurate in scope with the breadth of the claims in the instant application.

Therefore, the Examiner maintains the rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

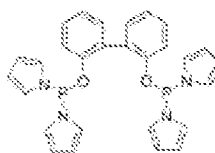
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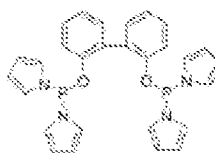
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Slot et al. (*Organometallics*, 2002, 3873-3883) in view of Billig et al. (*Kirk-Othmer Encyclopedia of Chemical Technology*, 1996, "Oxo Process" Pages 1-17).

The instant claims are drawn to a catalyst composition comprising a compound of Formula 1 [BPO-P(PyI)<sub>2</sub>], Formula 2 [TPP], and Formula 3 [Rh(acac)(CO)<sub>2</sub>].



van der Slot et al. teach the composition of  with Rh(acac)(CO)<sub>2</sub> for hydroformylation. See page 3875 and Table 3 on page 3876, especially the top entry.

van der Slot et al. do not teach the use of TPP in the catalyst composition.

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Billig et al. teach the use of TPP with a rhodium catalyst as the industry standard for hydrofomylation of ethylene and propylene. See page 4.

Therefore, one of ordinary skill in the art would take the catalyst composition of van der Slot et al. and modify it by adding the TPP of Billig et al. with a reasonable expectation of success. The motivation to combine the references is that since TPP and rhodium is the industry standard, it would make sense to one of skill in the art to try to add TPP to the catalyst of van der Slot et al. to create a new catalyst composition.

### ***Conclusion***

Claims 1-7, 9 and 10 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph R. Kosack whose telephone number is (571)272-5575. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph R Kosack/  
Examiner, Art Unit 1626